AMENDMENTS TO THE CLAIMS:

Please cancel Claims 38-42. This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1-2   (Canceled).

3.   (Original) A coke oven including an array of combustion chambers separated from carbonization chambers by oven walls, each combustion chamber comprising a rich-gas port, and a pair of a lean-gas port and an air port, all of the ports are located on the bottom of the combustion chamber;

characterized in that (1) the combustion chamber is defined into a first zone and a second zone by a center line extending in the direction of coke pushing, (2) said rich-gas port is located near the oven wall of the first zone, (3) the midpoint connecting the centers of said lean-gas port and said air port is in the second zone, and (4) said lean-gas port and said air port do not completely overlap in any of the directions when viewed both in a direction of coke pushing and in a direction of oven battery of said combustion chamber.

4.   (Original) A coke oven according to claim 3, wherein when viewed both in the direction of coke pushing and in the direction of oven battery of said combustion chamber, the overlapped length of said air port and said lean-gas port in each direction is 80% or less of the complete overlapped length.

5.   (Previously Presented) A coke oven according to claim 3, further characterized in that at least one of said air port and said lean-gas port is provided with an aperture adjusting member for adjusting the flow of lean gas and/or air.

Claims 6-12 (Canceled).

13.   (Previously Presented) A coke oven according to claim 4, further characterized in that at least one of said air port and said lean-gas port is provided with an aperture adjusting member for adjusting the flow of lean gas and/or air.

Claim 14   (Canceled).

15.   (Previously Presented) A method of operating a coke oven according to claim 3, characterized by effecting singlestage combustion by supplying a total amount of lean gas and a total amount of air from said lean-gas port and said air port provided in the bottom of said combustion chamber, respectively.

16.   (Previously Presented) A method of operating a coke oven according to claim 4, characterized by effecting singlestage combustion by supplying a total amount of lean gas and a total amount of air from said lean-gas port and said air port provided in the bottom of said combustion chamber, respectively.

17.   (Previously Presented) A method of operating a coke oven according to claim 5, characterized by effecting singlestage combustion by supplying a total amount of lean gas and a total amount of air from said lean-gas port and said air port provided in the bottom of said combustion chamber, respectively.

Claim 18   (Canceled).

19.   (Previously Presented) A method of operating a coke oven according to claim 3, characterized by effecting multistage combustion by supplying a total amount of lean gas from said lean-gas port provided in the bottom of said combustion chamber, 20-70% by volume of the air from said air port provided in the bottom of said combustion chamber, and the rest of the air from port(s) provided in a flue partition wall of said combustion chamber.

20.   (Previously Presented) A method of operating a coke oven according to claim 4, characterized by effecting multistage combustion by supplying a total amount of lean gas from said lean-gas port provided in the bottom of said combustion chamber, 20-70% by volume of the air from said air port provided in the bottom of said combustion chamber, and the rest of the air from port(s) provided in a flue partition wall of said combustion chamber.

21.   (Previously Presented) A method of operating a coke oven according to claim 5, characterized by effecting multistage combustion by supplying a total amount of

lean gas from said lean-gas port provided in the bottom of said combustion chamber, 20-70% by volume of the air from said air port provided in the bottom of said combustion chamber, and the rest of the air from port(s) provided in a flue partition wall of said combustion chamber.

Claim 22   (Canceled).

23.   (Previously Presented) A method of operating a coke oven according to claim 3, characterized by effecting multistage combustion by supplying part of lean gas from said lean-gas port provided in the bottom of said combustion chamber, the rest of the lean gas from said port(s) provided in said flue partition wall of said combustion chamber, and the total amount of the combustion air from said air port provided in the bottom of said combustion chamber.

24.   (Previously Presented) A method of operating a coke oven according to claim 4, characterized by effecting multistage combustion by supplying part of lean gas from said lean-gas port provided in the bottom of said combustion chamber, the rest of the lean gas from said port(s) provided in said flue partition wall of said combustion chamber, and the total amount of the combustion air from said air port provided in the bottom of said combustion chamber.

25.   (Previously Presented) A method of operating a coke oven according to claim 5, characterized by effecting multistage combustion by supplying part of lean gas

from said lean-gas port provided in the bottom of said combustion chamber, the rest of the lean gas from said port(s) provided in said flue partition wall of said combustion chamber, and the total amount of the combustion air from said air port provided in the bottom of said combustion chamber.

Claim 26   (Canceled).

27.   (Previously Presented) A method of operating a coke oven according to claim 3, characterized by effecting multistage combustion by supplying part of the lean gas from said lean-gas port provided in the bottom of said combustion chamber, the rest of the lean gas from said port(s) provided in said flue partition wall of said combustion chamber, and 20-70% by volume of the combustion air from said air port provided in the bottom of said combustion chamber, and the rest of the combustion air from said port(s) provided in said flue partition wall of said combustion chamber.

28.   (Previously Presented) A method of operating a coke oven according to claim 4, characterized by effecting multistage combustion by supplying part of the lean gas from said lean-gas port provided in the bottom of said combustion chamber, the rest of the lean gas from said port(s) provided in said flue partition wall of said combustion chamber, and 20-70% by volume of the combustion air from said air port provided in the bottom of said combustion chamber, and the rest of the combustion air from said port(s) provided in said flue partition wall of said combustion chamber.

29.   (Previously Presented) A method of operating a coke oven according to claim 5, characterized by effecting multistage combustion by supplying part of the lean gas from said lean-gas port provided in the bottom of said combustion chamber, the rest of the lean gas from said port(s) provided in said flue partition wall of said combustion chamber, and 20-70% by volume of the combustion air from said air port provided in the bottom of said combustion chamber, and the rest of the combustion air from said port(s) provided in said flue partition wall of said combustion chamber.

Claim 30   (Canceled).

31.   (Previously Presented) A method of operating a coke oven according to claim 3, characterized by effecting singlestage combustion by supplying the total amount of a rich gas from said rich-gas port, and the total amount of air from said air port and/or said lean-gas port, said respective ports being provided in the bottom of said combustion chamber.

32.   (Previously Presented) A method of operating a coke oven according to claim 4, characterized by effecting singlestage combustion by supplying the total amount of a rich gas from said rich-gas port, and the total amount of air from said air port and/or said lean-gas port, said respective ports being provided in the bottom of said combustion chamber.

33.   (Previously Presented) A method of operating a coke oven according to claim 5, characterized by effecting singlestage combustion by supplying the total amount of a rich gas from said rich-gas port, and the total amount of air from said air port and/or said lean-gas port, said respective ports being provided in the bottom of said combustion chamber.

Claim 34   (Canceled).

35.   (Previously Presented) A method of operating a coke oven according to claim 3, characterized by effecting multistage combustion by supplying the total amount of a rich gas from said rich-gas port provided in the bottom of said combustion chamber, 50% by volume or more of the air from said air port and/or said lean-gas port provided in the bottom of said combustion chamber, and the rest of the air from said port(s) provided in said flue partition wall of said combustion chamber.

36.   (Previously Presented) A method of operating a coke oven according to claim 4, characterized by effecting multistage combustion by supplying the total amount of a rich gas from said rich-gas port provided in the bottom of said combustion chamber, 50% by volume or more of the air from said air port and/or said lean-gas port provided in the bottom of said combustion chamber, and the rest of the air from said port(s) provided in said flue partition wall of said combustion chamber.

37.   (Previously Presented) A method of operating a coke oven according to

claim 5, characterized by effecting multistage combustion by supplying the total amount of

a rich gas from said rich-gas port provided in the bottom of said combustion chamber, 50%

by volume or more of the air from said air port and/or said lean-gas port provided in the

bottom of said combustion chamber, and the rest of the air from said port(s) provided in

said flue partition wall of said combustion chamber.

    Claims 38-42   (Cancelled).